



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/710,310	11/09/2000	MARCOS C. TZANNES	AWR-017 (457/19)	5605
22204	7590	05/04/2004	EXAMINER	
NIXON PEABODY, LLP 401 9TH STREET, NW SUITE 900 WASHINGTON, DC 20004-2128			NGUYEN, DUNG X	
			ART UNIT	PAPER NUMBER
			2631	

DATE MAILED: 05/04/2004

9

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/710,310

Applicant(s)

TZANNES, MARCOS C.

Examiner

Dung X Nguyen

Art Unit

2631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 November 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 - 39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 January 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4, 6.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. **Claims 1, 20, and 37 are rejected** under 35 U.S.C. 102(b) as being anticipated by Kumar (US patent # 5,748,677).

Regarding claim 1, Kumar discloses:

- Associating each carrier signal (column 4, lines 32 – 37 and column 13, lines 39 – 42) with a value determined independently of any input bit value carried by the carrier signal (column 2, line 65 to column 3, line 1);
- Computing a phase shift for each carrier signal based on the value associated with that carrier signal (column 1, lines 51 – 59 and column 5, lines 3 – 11);
- Combining a phase shift computed for each carrier (column 2, lines 5 – 9 and column 4, line 66 to column 5, line 3) with the phase characteristic of that carrier signal (column 1, lines 51 – 59) so as to scramble the phase characteristics of the plurality of carrier signals (column 3, lines 34 – 47).

Regarding claim 20, Kumar discloses:

- Associating each carrier signal (column 4, lines 32 – 37 and column 13, lines 39 – 42) with a value determined independently of any input bit value carried by the carrier signal (column 2, line 65 to column 3, line 1);
- Computing a phase shift for each carrier signal based on the value associated with that carrier signal (column 1, lines 51 – 59 and column 5, lines 3 – 11);

Art Unit: 2631

- Demodulating the transmission signal for each carrier signal (column 6, lines 58 – 61, column 2, lines 5 – 9 and column 4, line 66 to column 5, line 3) based on the value associated with that carrier signal (column 13, lines 39 – 45).

Regarding claim 37, the limitations are analyzed in the same manner set forth as claim 1.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 2 – 19, and 21 – 36, 38, and 39 are rejected** under 35 U.S.C. 103(a) as being unpatentable over by Kumar (US patent # 5,748,677), and further in view of Dobson (US patent # 6,704,317 B1).

Regarding claim 2, Kumar differs from the instant claimed invention that it does not show wherein the apparatus analyzed in claim 1 further comprising modulating bits of the input stream onto the carrier signals having the scrambled phase characteristic to produce a transmission signal with a reduced peak-to-average power ratio.

However, Dobson discloses the modulating bits of the input stream onto the carrier signals (column 3, lines 1 – 5) having the scrambled phase characteristic (column 3, lines 29 – 33) to produce a transmission signal with a reduced peaked-to-average power ratio (column 15, lines 1- 4 and column 11, lines 33 – 34).

Art Unit: 2631

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine Kumar and Dobson to provide the apparatus analyzed in claim 1 further comprising modulating bits of the input stream onto the carrier signals having the scrambled phase characteristic to produce a transmission signal with a reduced peak-to-average power ratio for providing connectivity to devices and networks outside the home (column 1, lines 7 – 14 of Dobson).

Regarding claims 3 and 4, Kumar differs from the instant claimed invention that it does not show wherein the apparatus analyzed in claim 1 further comprising independently deriving and transmitting the value associated with each carrier signal at each transceiver, respectively. But, it discloses that wherein the apparatus analyzed in claim 1 further comprising independently deriving the value associated with each carrier signal (column 4, lines 33 – 37).

However, Dobson discloses that independently deriving and transmitting the value associated with each carrier at each transceiver (column 3, lines 1 – 5 and lines 55 – 58).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine Kumar and Dobson to provide the apparatus analyzed in claim 1 further comprising independently deriving the value associated with each carrier signal at each transceiver for providing connectivity to devices and networks outside the home (column 1, lines 7 – 14 of Dobson).

Regarding claim 5, Kumar differs from the instant claimed invention that it does not show wherein the apparatus analyzed in claim 1 further comprising maintaining synchronization between the transceiver using the value associated with each carrier signal. But, it discloses that wherein the apparatus analyzed in claim 1 further comprising maintaining synchronization between the receiver and the transmitter using the value associated with each carrier signal (column 8, lines 28 – 48).

However, Dobson discloses that transmitting the value associated with each carrier at each transceiver (column 3, lines 1 – 5 and lines 55 – 58).

Art Unit: 2631

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine Kumar and Dobson to provide the apparatus analyzed in claim 1 further comprising maintaining synchronization between the transceiver using the value associated with each carrier signal for providing connectivity to devices and networks outside the home (column 1, lines 7 – 14 of Dobson).

Regarding claim 6 and 7, Kumar differs from the instant claimed invention that it does not show wherein the apparatus analyzed in claim 1 further comprising the value varies with each carrier signal or with each DMT symbol, respectively.

However, Dobson discloses that the value varies with each carrier signal or with each DMT symbol, respectively (column 2, lines 36 – 60).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine Kumar and Dobson to provide the apparatus analyzed in claim 1 further comprising the value varies with each DMT symbol for providing connectivity to devices and networks outside the home (column 1, lines 7 – 14 of Dobson).

Regarding claim 8, Kumar further discloses that wherein the value is derived from a predetermined parameter (column 14, lines 47 – 51).

Regarding claim 9, Kumar differs from the instant claimed invention that it does not show wherein the predefined parameter is a carrier number.

However, in a digital system, each predetermined sequence must be one and/or zero.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to recognize Kumar to provide the apparatus analyzed in claim 1 further comprising the predefined parameter is a carrier number.

Regarding claim 10, Kumar further discloses wherein the predefined parameter is a symbol count (column 16, lines 58 – 61).

Art Unit: 2631

Regarding claims 11 and 12, Kumar differs from the instant claimed invention that it does not show wherein the predefined parameter is a hyperframe count or a superframe count, respectively.

However, since Kumar has disclosed wherein the predefined parameter is a symbol count (column 16, lines 58 – 61), the predefined parameter is a hyperframe count or a superframe count is just a designed choice.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to recognize Kumar to provide the apparatus analyzed in claim 1 further comprising the predefined parameter is a hyperframe count or superframe count for a designed choice.

Regarding claim 13, Kumar discloses wherein the apparatus analyzed in claim 1 further comprising scrambling the bits of the output stream (column 3, lines 31 – 47).

Regarding claim 14, Kumar discloses wherein the apparatus analyzed in claim 1 further comprising a predetermined transmission when the amplitude of the transmission signal exceeds a certain level (column 6, lines 50 – 57).

Regarding claim 15, Kumar inherently discloses wherein the predetermined transmission signal comprises a predetermined pattern of bits (column 6, line 58 to column 7, line 3).

Regarding claim 16, Kumar inherently discloses wherein the predetermined transmission signal comprises a pilot tone (column 6, lines 30 - 33).

Regarding claim 17, Kumar differs from the instant claimed invention that it does not show wherein the pilot tone is used to maintain synchronization between the first transceiver and the second transceiver. But, it discloses that wherein the pilot tone further comprising maintaining synchronization between the receiver and the transmitter using the value associated with each carrier signal (column 8, lines 28 – 48).

Art Unit: 2631

However, Dobson discloses that transmitting the value associated with each transceiver (column 3, lines 1 – 5 and lines 55 – 58).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine Kumar and Dobson to provide wherein the pilot tone is used to maintain synchronization between the first transceiver and the second transceiver for providing connectivity to devices and networks outside the home (column 1, lines 7 – 14 of Dobson).

Regarding claim 18, Kumar inherently discloses wherein each bit value in the predetermined pattern of bits is a zero value (column 7, lines 10 - 12).

Regarding claim 19, Kumar discloses wherein the predetermined pattern of bits is pseudo-random sequence pattern (column 5, lines 28 - 67).

Regarding claim 21, the limitations are analyzed in the same manner set forth as claim 3.

Regarding claim 22, the limitations are analyzed in the same manner set forth as claim 4.

Regarding claim 23, the limitations are analyzed in the same manner set forth as claim 5.

Regarding claim 24, the limitations are analyzed in the same manner set forth as claim 6

Regarding claim 25, the limitations are analyzed in the same manner set forth as claim 7.

Regarding claim 26, the limitations are analyzed in the same manner set forth as claim 8.

Regarding claim 27, the limitations are analyzed in the same manner set forth as claim 9.

Regarding claim 28, the limitations are analyzed in the same manner set forth as claim 10.

Regarding claim 29, the limitations are analyzed in the same manner set forth as claim 11.

Regarding claim 30, the limitations are analyzed in the same manner set forth as claim 12.

Regarding claim 31, the limitations are analyzed in the same manner set forth as claim 14.

Regarding claim 32, the limitations are analyzed in the same manner set forth as claim 15.

Regarding claim 33, the limitations are analyzed in the same manner set forth as claim 16.

Regarding claim 34, the limitations are analyzed in the same manner set forth as claim 17.

Regarding claim 35, the limitations are analyzed in the same manner set forth as claim 18.

Regarding claim 36, the limitations are analyzed in the same manner set forth as claim 19.

Regarding claim 38, the limitations are analyzed in the same manner set forth as claim 2.

Regarding claim 39, Kumar discloses:

- Receiving over the communication channel a transmission signal (column 14, line 63 to column 15, line 3) comprised a sequence of symbols that each have a bit-value pattern (column 5, lines 28 – 67);
- Comparing the bit-value of each received symbol with a predetermined bit value pattern (column 2, lines 32 – 36, column 9, lines 29 – 41, and column 12, lines 17 – 22);
- Discarding a given one of the received symbols (column 11, lines 64 – 67 and column 18, lines 39 – 42) in the sequence of symbols if the bit-value pattern of that symbol matches (column 9, lines 2 – 6, and column 11, lines 46 – 52) the predetermined bit-value pattern, otherwise demodulating that symbol (column 6, lines 58 – 61, column 7, lines 38 – 42, and column 8, lines 39 – 41).

Kumar differs from the instant claimed invention that it does not show wherein the apparatus analyzed in the instant claimed invention further comparing the each DMT symbol with a predetermined bit-value pattern, discarding it when it has the same value of a predetermined bit-value pattern, otherwise demodulating it.

Art Unit: 2631

However, Dobson discloses that the value varies with each carrier signal or with each DMT symbol, respectively (column 2, lines 36 – 60).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine Kumar and Dobson to provide the apparatus analyzed in the instant claimed invention further comparing the each DMT symbol with a predetermined bit-value pattern, discarding it when it has the same value of a predetermined bit-value pattern, otherwise demodulating it for providing connectivity to devices and networks outside the home (column 1, lines 7 – 14 of Dobson).

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Dobson (US patent # 6,507,585 B1) discloses a multi-carrier adapter device using frequency domain equalizer.

Rhind (US patent # 4,985,900) discloses a non-intrusive channel-impairment analyzer.

Lyon et al. (US patent # 3,955,141) discloses synchronizing circuit for modems in a data communication network.

Contact Information

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dung X. Nguyen whose telephone number is (703) 305-4892. The examiner can normally be reached on Monday through Friday from 8:30 AM to 5:30 PM.

Art Unit: 2631

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Ghayour Mohammad H. can be reached on (703) 306-3034. The fax phone numbers for this group is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3800.

DXN

April 15, 2004

A handwritten signature in black ink, consisting of several fluid, overlapping strokes. The signature is positioned below the date and appears to be a stylized representation of the examiner's name.